

# PYRACANTHA KOIDZUMII (ROSACEAE) NEW TO THE ARKANSAS FLORA

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## ABSTRACT

*Pyracantha koidzumii* (Hayata) Rehder (Formosa firethorn) is here reported as new to the Arkansas flora. Additionally, it is also probably the first record of the genus *Pyracantha* growing spontaneously in the state. A key and illustrations of the three most commonly encountered species of *Pyracantha* outside of cultivation in the US are included.

## RESUMEN

*Pyracantha koidzumii* (Hayata) Rehder (Formosa firethorn) is here reported as new to the Arkansas flora. Additionally, it is also probably the first record of the genus *Pyracantha* growing spontaneously in the state. A key and illustrations of the three most commonly encountered species of *Pyracantha* outside of cultivation in the US are included.

## INTRODUCTION

At present, non-native species comprise approximately 21% of the Arkansas flora (Arkansas Vascular Flora Committee 2006), with new species of non-native plants continuously being documented and added (Peck 2003; Peck & Serviss 2006; Serviss et al. 2006, 2008a, 2008b; Serviss & Peck 2008). Many of the species comprising these most recent records were well established when initially encountered; therefore, it is extremely important to record first encounters with escaped populations and monitor these new spontaneous occurrences of non-native species to evaluate their potential for becoming the next wave of invasive species (Yatskievych & Raveill 2001).

*Pyracantha* is a Eurasian genus consisting of about 10 species of woody, evergreen, thorny shrubs and trees (Bailey 1971; Flora of China Editorial Committee 2003; Krüssmann 1978). Species of *Pyracantha* are important as ornamentals because of their evergreen habit, and bright red, orange, or yellow-colored fruits that persist well into winter. Several species of *Pyracantha* have become established to various degrees across much of the southern US from California to Florida and the Carolinas (NRCS 1999), but until now, have not been recorded outside of cultivation in Arkansas.

*Pyracantha coccinea* (D. Don) M.J. Roem. (scarlet firethorn) was previously documented for Arkansas (Arkansas Vascular Flora Committee 2006). However, this record now appears to be of questionable status regarding its position in the flora, as further investigation has led to the possibility that the specimen cited in the checklist may have simply been persisting from cultivation; and not actually spontaneous. As a result, it will apparently not be included in the upcoming atlas for the vascular flora of Arkansas (Brent Baker, pers. comm.). Additionally, a second possible record of *Pyracantha* in the state collected from Lafayette County in 1959 by Demaree (41944; UMO), was examined by the author and determined to be *Crataegus* (hawthorn). Subsequently, the record of *P. koidzumii* presented here is currently the only definitive record of this genus occurring outside of cultivation in Arkansas.

## SPECIMEN RECORD OF *P. KOIDZUMII* FOR ARKANSAS

***Pyracantha koidzumii*** (Hayata) Rehder (*P. formosana* Kanehira) (Rosaceae). Formosa firethorn is a large, evergreen shrub or small tree to about 4(5.5) m in height that is native to Taiwan. In addition to Arkansas, Formosa firethorn has been documented outside of cultivation in the US in Alabama, Arizona, Florida, Georgia, and South Carolina, as determined from the national flora database kept by NRCS (1999).



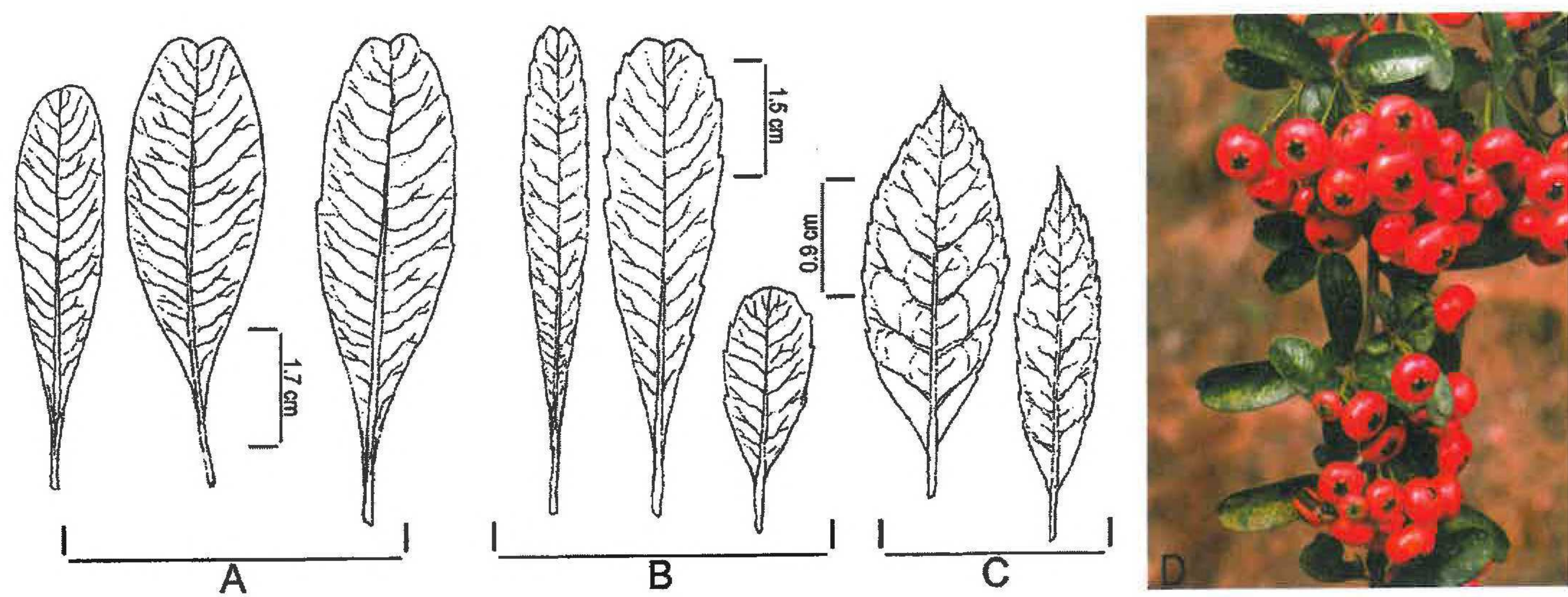


FIG. 1. Photograph of *P. koidzumii* and leaf illustrations (for comparison) of three *Pyracantha* species, including *P. koidzumii*. A. *Pyracantha koidzumii*. B. *Pyracantha fortuneana*. C. *Pyracantha coccinea*. D. *Pyracantha koidzumii* mature fruits and leaves.

Voucher specimen: **Garland Co.:** one arborescent, reproductive-age plant (mature fruits present), steep bluff with rocky soil, semi-disturbed, upland woods habitat, woody associates include: *Liquidambar styraciflua*, *Quercus velutina*, *Nyssa sylvatica*, *Pinus echinata*, *Pinus taeda*, *Prunus serotina*, *Ulmus alata*, and one plant of *Pyrus calleryana*, ca. one-half block N of Central Avenue, 4500 block, Hot Springs, 1 Nov 2008, B. Serviss and A. Serviss 7396 (HEND).

Many species of *Pyracantha* are difficult to distinguish without careful scrutiny; thus the following key has been provided as an aid to identification. In addition to the approximately 10 currently recognized species in the genus, numerous interspecific hybrids and cultivars also occur. No attempt to treat these additional taxa is made here (for a list and descriptions of many of the hybrids and cultivars of *Pyracantha*, see Krüssmann 1978).

KEY TO PYRACANTHA SPECIES LIKELY ENCOUNTERED IN ARKANSAS

At least three species of *Pyracantha*: *P. coccinea*, *P. fortuneana* (*P. crenatoserrata*), and *P. koidzumii*, (Fig. 1) are cultivated in the state, and spontaneous seedlings are sometimes observed in the vicinity of cultivated plants (Serviss 2006).

1. Leaves usually elliptic, sometimes narrowly so, apex acute, margins toothed\_\_\_\_\_ **P. coccinea**
1. Leaves usually oblong, oblanceolate, or obovate-oblong, apex obtuse, rounded, or nearly truncate, sometimes emarginate, margins toothed or entire (leaves of *P. koidzumii* can be elliptic, but with entire margins).
2. Leaf margins on most or all leaves conspicuously toothed, leaves generally widest toward apex \_\_\_\_\_ **P. fortuneana**
2. Leaf margins entire, a few leaves may have a few widely spaced teeth, leaves generally widest more toward the middle \_\_\_\_\_ **P. koidzumii**

*Pyracantha* can sometimes be confused with certain species of *Crataegus*, but differs from it by its evergreen habit, leafy thorns, and two fertile ovules per carpel. *Crataegus* species are deciduous with leafless thorns and only one fertile ovule per carpel. The generally narrow, unlobed, finely-toothed leaves of *Pyracantha* can also be useful in distinguishing it from *Crataegus*.

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